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MEMORANDUM FOR DISTRIBUTION

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OFFICE OF HEALTH, SAFETY AND SECURITY

SUBJECT: Facility Representative Program
Performance Indicators Quarterly Report, October – December 2011

This memorandum summarizes the Facility Representative (FR) Program Performance Indicators Quarterly Report covering the period from October through December 2011. Data for these indicators were gathered by field elements per Department of Energy (DOE) Technical Standard 1063-2011, *Facility Representatives*, and reported to Headquarters program offices for evaluation and feedback to improve the FR Program.

Highlights from this report include:

FR Staffing/Qualification/Oversight Data

- DOE was staffed at 179 FR Full Time Equivalents (FTE), which is 92 percent of the full staffing level (DOE goal is 100 percent). Four FRs left due to transfer, promotion, or retirement. Two new FRs were hired from within their site organizations.
- DOE has 82 percent of the FR staff fully-qualified (DOE goal is > 80 percent).
- DOE FRs spent 77 percent of their time on oversight activities (DOE goal is > 65 percent).

FR Program Highlights

Individual site program highlights are included in the current FR Quarterly Report.

The full FR Program Performance Indicators Quarterly Report, current FR information, and the current and past quarterly performance indicator reports are available at the FR Web site at http://www.hss.energy.gov/nuclearsafety/nfsp/facrep. If you have any questions or comments on this report, please contact me at (301) 903-1408 or the DOE FR Program Manager, Earl Hughes, at (202) 586-0065.

Facility Representative Performance Indicators October-December 2011

OFFICE OF ENVIRONMENTAL MANAGEMENT (EM)

Location	Analysis FTE	Approved FTE	Actual Staff	% Staff *	Gains / Losses	% Core Qualified *	% Fully Qualified *	% Oversight Time **
CBFO	3	3	3	100	0	100	100	71
ID (EM) [1]	7	7	8	100	0	88	88	82
OR (EM) [2]	16	16	16	100	-1	94	94	82
ORP	14	14	14	100	0	93	93	77
PPPO	6	6	6	100	0	83	83	71
RL [3]	17	17	16	94	+1	88	88	73
SPRU [4]	2	2	2	100	0	100	0	70
SR [5]	36	34	30	83	-2	75	75	83
WVDP	2	2	2	100	0	100	50	75
EM Totals	**103**	**101**	**97**	**94**	**-2**	**91**	**75**	**76**
DOE GOALS	**—**	**—**	**—**	**100**	**—**	**—**	**>80**	**>65**

Location Key:

CBFO = Carlsbad Field Office
ID = Idaho Operations Office
OR = Oak Ridge Office
ORP = Office of River Protection
PPPO = Portsmouth/Paducah Project Office
RL = Richland Operations Office
SPRU = Separations Process Research Unit
SR = Savannah River Operations Office
WVDP = West Valley Demonstration Project

* % Staff and % Qualified:
The number on board divided by the Analysis FTE.

** % Oversight Time:
The number of hours spent in oversight activities divided by the number of available work hours in the quarter. The number of available work hours includes normal scheduled work and overtime, but not leave or special assignments greater than 1 week assigned.

Notes:

1 ID (EM) performed a new Staffing Analysis showing 7 FRs required vice 10 due to completion of some remediation work. One FR is slated to transfer to ID (NE) upon completion of a remediation project.
2 OR (EM) performed a new staffing analysis showing 16 FRs required vice 18. One FR retired this quarter.
3 RL hired a new FR from within the operations office.
4 All SPRU FRs are experienced and previously qualified at other sites. SPRU was planned as a project too short to support full qualification.
5 Two SR FRs took lateral transfers to other positions in the Operations Office.

EM Facility Representative (FR) Highlights:

- ID (EM): An FR at the Idaho Nuclear Technology and Engineering Center (INTEC) developed and implemented a training and qualification package for the Integrated Waste Treatment Unit (IWTU). This effort included briefing materials, a question bank, system qualification walkdowns, and written examinations. As a result of these efforts, all INTEC FRs were fully qualified at IWTU well in advance of facility readiness reviews for startup.

- ID (EM): An FR participated as an Accident Investigation Board Member for the plutonium contamination and personnel exposure event that occurred November 8, 2011, at the Zero Power Physics Reactor (ZPPR) facility.

- ID (EM): An FR at the Advanced Mixed Waste Treatment Project recognized that a procedure violation regarding failure to independently verify manually entered assay information was a Technical Safety Requirement (TSR) violation. The contractor was aware of the procedure violation but did not recognize the TSR implications.

- OR (EM): An FR at the Tank W-1A project discovered that the contractor had violated their Unreviewed Safety Question (USQ) process by performing work prior to the completion and approval of a USQ Determination. As a result, DOE is planning a for-cause review of the contractor USQ process.

EM Facility Representative (FR) Highlights:

- OR (EM): An FR at Building 3019 provided oversight and support for preparations to transport material from the facility. Several issues were identified in the areas of Conduct of Operations, training, and readiness that were corrected early and aided the facility in attaining startup approval from DOE with minimal findings. Another FR participated in a DOE Readiness Assessment of this activity. Issues were documented with fissile material handling and operations procedures, independent verification, and nuclear safety.

- OR (EM): An FR identified that active work packages for the demolition of the building 3026 Hot Cells at ORNL did not meet the requirements of the contractor's Integrated Work Control Plan or DOE P 450.4, *Safety Management System Policy*. The contractor was notified of the issues and has taken corrective actions.

- OR (EM): An FR noted numerous potential electrical safety issues at the 3026 Hot Cell Demolition project. The FR then walked down the work site with the DOE-ORO electrical safety subject matter expert and additional concerns were noted. The issues were communicated to the contractor and formal corrective actions are being generated.

- OR (EM): At the Melton Valley Solid Waste Storage Facility, several changes to the safety basis were in progress to receive an offsite shipment. Because the changes were not yet implemented, the contractor planned to leave the shipment outside of the facility footprint. As a result of FR interaction, DOE nuclear safety subject matter experts got involved and the material was stored in compliance with the current implemented safety basis.

- OR (EM): An FR observing routine X-ray scanning at the Transuranic Waste Processing Center saw a drum on the lift table raised into direct contact with the ceiling of the equipment cabinet due to misalignment. As a result of the FRs actions, facility management revised the procedures and an operator aid to verify proper alignment until a more permanent alignment device can be engineered and installed.

- OR (EM): An FR at the Environmental Management Waste Management Facility found that security coverage for the facility could not support incoming shipments. As a result, the Facility Manager revised the coverage.

- OR (EM): An FR participated with DOE and contractor Fire Protection Engineers in a review of credited wet-pipe fire suppression systems at the K-1065 complex. Two leaks were identified, and investigation of inconsistent pressure gage readings led to discovering that metal fines had migrated through the piping into the gage, requiring its replacement.

- OR (EM): An FR observed a waste truck driver hammering on trailer brakes in an attempt to unlock them while the truck was on a slope and not chocked. Facility management took corrective actions.

- OR (EM): FR observations of forklift operators impaired by glare resulted in installation of tinted windshield material on the machines to increase safety.

- ORP: A team of Tank Farm, Waste Treatment Plant, DOE-RL and DOE-PNSO FRs completed the triennial FR program self-assessment for ORP. The report identified two strengths, six opportunities for improvement and eight observations.

- ORP: A tank farm FR supported the Idaho cleanup project safety basis implementation verification review for the Idaho Integrated Waste Treatment Unit in October 2011.

- ORP: As part of a work control assessment, an FR identified 25 separate issues with work instructions and technical procedures which could significantly impact the workability of those documents. The FR also identified four separate instances of procedure noncompliance (performing steps out of order or not performing steps as required). The contractor committed to resolving the programmatic issues still outstanding with their work control process.

EM Facility Representative (FR) Highlights:

- ORP: During a pre-job briefing, an FR noted that the work instructions needed additional specificity for a camera installation to ensure that cameras and high-powered lights in close proximity inside waste tanks would not create a fire hazard.

- ORP: While performing a document review for thermocouple installation, an FR identified that the walk down was not adequately performed or correctly documented. Corrective actions are in place to ensure that future walk downs are performed in accordance with procedures and that they are correctly documented.

- ORP: While observing work to replace the HEPA filters of a retrieval system ventilation exhauster, an FR identified several work instruction errors. The FR also identified that inadequate Personnel Protective Equipment were used while cutting a radiological containment. This action was inconsistent with the Job Hazards Analysis, the contractor's procedures, and DOE O 422.1, *Conduct of Operations*. Corrective actions have resolved these deficiencies and have ensured that the work instructions are workable in the field.

- ORP: FRs identified several elevated work issues which led to immediate corrections.

- ORP: An FR at the Waste Treatment Plant noted degraded performance in fire extinguisher inspections and reported these observations to Contractor management and the Safety Assurance representative. The affected extinguishers were taken out of service and a full facility inspection was conducted to ensure compliance. The FR noted improvement in subsequent walkdowns. There are approximately 2,500 fire extinguishers assigned to the WTP site.

- ORP: During a tour of inactive facilities an FR discovered that combustible materials left over from recent work near a building were stored in the building and blocked a double door entrance. The condition violated requirements for unencumbered paths of egress and restrictions on storing combustible materials in and alongside facilities. The FR contacted the Area Dayshift Manager who immediately corrected the situation. Personnel were briefed at the following Morning Meeting to preclude the recurrence of the issues.

- ORP: An FR identified three technical errors in troubleshooting work instructions which could have resulted in an increased exposure for the workers. The contractor is conducting training for procedure writers to allow iterative troubleshooting measures and to ensure that mechanisms are in place to ensure the facility is left in a safe configuration.

- RL: FRs identified several lockout/tagout problems, including improper use of locks, absence of required tags, and administrative errors.

- RL: FRs identified several work authorization issues, including performance of work without authorization and inadequate work authorization and release procedures.

- RL: An FR identified that the Documented Safety Analysis for building 209E was canceled prior to removal of all Hazard Category 3 material.

- RL: An FR identified inconsistencies between component identifiers in procedures and label plates at the Liquid Waste and Fuel Storage facility.

- RL: An FR identified substantial risk in bat cave remediation and questioned the need to do remediation work. As a result, the project management and contractor are reengaging the regulator on risk vs. need.

- RL: An FR identified that 65% of the meteorological towers were outside their calibration and functional check cycles.

EM Facility Representative (FR) Highlights:

- SPRU: Due to project delays and funding concerns, the duration of the SPRU Project may be significantly extended. All of the FR staff is on detail or provided via a subcontractor (formerly fully qualified FR.) The FR details expire by June 2012, and the subcontractor support contract expires in the spring of 2012. DOE-SPRU is working with the DOE stakeholders to determine the pathway to complete this project. Based on the revised project pathway, DOE-SPRU will revise the future FR staffing requirements.

- SR: Office of Laboratory Oversight (OLO) FRs questioned whether a negative Unreviewed Safety Question Determination (USQD) involving the minimum required fire water capacity should have been a positive USQD. Upon further review, the Contractor revised the USQD as positive.

- SR: OLO FRs supported a DOE-Headquarters Office of Health, Safety, and Security Team assessment of Savannah River National Laboratory (SRNL) implementation of safety basis hazard controls associated with "flashing spray release."

- SR: OLO FRs identified an issue associated with Infrastructure Services failure to take any action on recommendations for updating the preventive maintenance on equipment that supports SRNL sprinkler system.

- SR: OLO FRs identified an operational procedure that improperly had operator action steps contained in procedure notes.

- SR: Salt Waste Processing Facility (SWPF) FRs completed the SWPF Integrated Safety Management System annual effectiveness review and subsequent approval of the annual declaration.

- SR: SWPF FRs completed the review of first two SWPF startup procedures. Major issues were identified and corrective actions are underway.

- SR: Nuclear Materials Operations Division (NMOD) FRs questioned the contractor's decision to declare improperly configured Special Nuclear Material containers as a Potential Inadequacy in the Safety Analysis and not a Technical Safety Requirements (TSR) violation. Upon further discussion, a TSR violation was declared in HB-Line due to the use of containers not described in the Justification for Continued Operation (JCO). Approval of a Response Plan was required to bring the facility into a safe and compliant condition. A JCO revision was also required.

- SR: An Operations Oversight Division (OOD) FR was appointed to be the DOE-SR Subject Matter Expert for Explosive Safety for the site as a collateral duty.

- SR: An OOD FR led a Readiness Assessment (RA) for start-up of the Ameresco Biomass Cogeneration Facility, and several OOD FRs participated as team members on the RA. Using biomass, the facility will provide the majority of process steam used on site and approximately 30% of the site's electrical needs.

- SR: Waste Disposition Operations Division (WDOD) FRs provided oversight of the H-Tank Farm Management Checklist supporting completion of the Tank 13 Waste Removal Project. The review noted that three System Alignment Checklists had not been completed for systems modified during the project. During performance of the Specific Administrative Controls review, 14 components were found out of the required position.

- SR: WDOD FRs identified that the H-Tank Farm facility failed to properly implement a change to the Waste Acceptance Criteria.

- SR: WDOD FRs identified that the contractor was using standing and shift orders to circumvent the procedure review and approval process.

EM Facility Representative (FR) Highlights:

- WVDP: An FR identified stairwell fire door issues and ensured the doors were appropriately repaired and re-labeled.

- WVDP: FRs identified fire extinguisher deficiencies. This led to the contractor establishing a system for inspection and physical control of fire extinguishers.

OFFICE OF NUCLEAR ENERGY (NE)

Location*	Analysis FTE	Approved FTE	Actual Staff	% Staff *	Gains / Losses	% Core Qualified *	% Fully Qualified *	% Oversight Time **
ID (NE)	9	9	8	89	0	78	78	81
NE Totals	**9**	**9**	**8**	**89**	0	**78**	**78**	**81**
DOE GOALS	**—**	**—**	**—**	**100**	**—**	**—**	**>80**	**>65**

* Location Key:
ID = Idaho Operations Office

* % Staff and % Qualified:
The number on board divided by the Analysis FTE.

** % Oversight Time:
The number of hours spent in oversight activities divided by the number of available work hours in the quarter. The number of available work hours includes normal scheduled work and overtime, but not leave or special assignments greater than 1 week assigned.

Notes:

One ID (NE) FR who was on temporary detail to augment ID (EM) FR staffing returned. One ID (EM) FR is slated to transfer to ID (NE) upon completion of a current remediation project.

NE Facility Representative (FR) Highlights:

- ID (NE): An FR at the Advanced Test Reactor (ATR) Complex identified that ATR operators failed to document an incorrectly performed reactor plant chemical addition in the plant logs and turnover checklists.

- ID (NE): An FR at the ATR Complex identified several procedure non-compliances during unirradiated reactor fuel handling at the Nuclear Material Inspection and Storage facility.

- ID (NE): FRs at the Materials and Fuels Complex (MFC) provided input to, and followed the progress of, the contractor corrective action plans that were developed for the unplanned Neutron Radiography Facility reactor shutdown, the Hot Fuel Examination Facility extremity exposure, and the plutonium contamination and personnel exposure event at the Zero Power Physics Reactor (ZPPR).

- ID (NE): FRs at the MFC followed the re-entry and recovery efforts at the ZPPR facility following the plutonium contamination and personnel exposure event that occurred on November 8, 2011.

NATIONAL NUCLEAR SECURITY ADMINISTRATION (NNSA)

Location	Analysis FTE	Approved FTE	Actual Staff	% Staff *	Gains / Losses	% Core Qualified *	% Fully Qualified *	% Oversight Time **
LASO [1]	15	13	13	80	+1	87	73	74
LSO	9	9	8	89	0	67	67	74
NSO	7	7	7	100	0	100	86	75
PXSO	10	9	9	90	0	90	90	87
SRSO	3	3	3	100	0	100	100	71
SSO	6	6	6	100	0	100	100	71
YSO	9	9	8	89	0	89	89	74
NNSA Totals	**59**	**56**	**54**	**92**	**+1**	**90**	**86**	**75**
DOE GOALS	**—**	**—**	**—**	**100**	**—**	**—**	**>80**	**>65**

Location Key:

LASO = Los Alamos Site Office
LSO = Livermore Site Office
NSO = Nevada Site Office
PXSO = Pantex Site Office
SRSO = Savannah River Site Office
SSO = Sandia Site Office
YSO = Y-12 Site Office

* % Staff and % Qualified:
The number on board divided by the Analysis FTE.

** % Oversight Time:
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Notes:

1 LASO hired an FR from within the site office.

NNSA Facility Representative (FR) Highlights:

- LASO: An FR paused work on TA-35-2 forklift operations due to people working under a suspended load and without protective equipment.
- LASO: An FR found that freeze protection issues were not tracked, prioritized or corrected, fire doors were propped open, LO/TO tags did not match logbook entries, and multiple electrical panels were blocked.
- LASO: An FR served as the Radiological Assistance Program Region 4 Federal Team Leader for the 2011 International Balloon Fiesta.
- LASO: An FR found that inspections of the Safety Class vehicle barriers at the Waste Characterization, Reduction, and Repackaging Facility were not adequately performed.
- LSO: While reviewing a safety basis change for a proposed activity in Building 334, an FR identified a Potential Inadequacy in the Safety Analytic (PISA). The inadvertent discharge of a security firearm impacting a sealed source had not been analyzed. The PISA resulted in revision to the safety basis document.
- LSO: While performing a conduct of operations assessment, two FRs identified a number of operator aids issues including unapproved operator aid postings, the need to clarify the definition of an operator aid, inconsistent implementation of Training Office involvement in procedure training development, and an improperly formatted Operator Aid Procedure.
- NSO: An FR at the Device Assembly Facility identified an issue with monthly and annual emergency light surveillances not in compliance with 10 CFR 851 and the NFPA 101 *Life Safety Code*. The issue has site wide implications.

NNSA Facility Representative (FR) Highlights:

- LSO: An FR participated as a team member for the Building 334 Shaker Readiness Assessment.
- NSO: An FR participated in the Nevada Site Office and Contractor Spectrum Relocation Biennial Remote Communications Site Review.
- NSO: An FR at the Device Assembly Facility identified issues with nuclear maintenance and project startup procedural compliance.
- SRSO: FRs identified Conduct of Operations weaknesses associated with the contractor's performance of system alignment checklists.
- SSO: An SSO Nuclear FR provided oversight during repair, functional testing and return to operability surveillance of a damaged safety element drive mechanism for the Sandia Pulsed Reactor Facility Critical Experiments.
- SSO: An Annular Core Research Reactor FR questioned whether the facility plan to install a Nitrogen gas bottle in the reactor high bay as a temporary modification was addressed in the facility Documented Safety Analysis (DSA). Upon investigation it was determined to not be in the DSA hazard identification tables. Consequently, the temporary modification is postponed pending completion of the Unreviewed Safety Question process.
- SSO: An FR identified a beryllium concern at the Z-Machine. Procedures did not implement the Chronic Beryllium Disease Prevention Plan during separation activities of the Enhanced Containment Chamber from the Upper Containment Chamber. Further operations were postponed to update procedures to incorporate beryllium requirements.
- YSO: FRs found that the contractor failed to implement Conduct of Operations requirements for fire suppression surveillances.
- YSO: FRs found that the contractor had resumed Special Processing Shear operations without obtaining authorization.
- YSO: FRs identified several weaknesses related to use of procedures.

OFFICE OF SCIENCE (SC)

Location	Analysis FTE	Approved FTE	Actual Staff	% Staff *	Gains / Losses	% Core Qualified *	% Fully Qualified *	% Oversight Time **
AMES	1	1	1	100	0	100	100	75
ASO[1]	7	4	4	57	-1	57	57	78
BHSO	4	4	4	100	0	100	100	82
FSO	2	2	2	100	0	50	50	91
NBL	1	1	1	100	0	100	100	50
OR (SC)	5	5	5	100	0	100	100	75
PNSO	3	3	3	100	0	100	100	70
SC Totals	**23**	**20**	**20**	**87**	**-1**	**87**	**87**	**74**
DOE GOALS	**—**	**—**	**—**	**100**	**—**	**—**	**>80**	**>65**

Location Key

AMES=AMES Site Office BHSO = Brookhaven Site Office NBL = New Brunswick Laboratory PNSO = Pacific Northwest Site Office
ASO = Argonne Site Office FSO = Fermi Site Office OR = Oak Ridge Office

* % Staff and % Qualified:
The number on board divided by the Analysis FTE.

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Notes:

1. One ASO FR retired and the position was eliminated, reducing the Approved FR positions to 4. FR duties were realigned to the 4 remaining positions.

SC Facility Representative (FR) Highlights:

- ASO: FRs supported development and implementation of Argonne's Documented Safety Analyses per 10 CFR 830.
- ASO: An FR participated in Argonne analysis of common causes for radiological issues.
- ASO: An FR served a 90-day detail as Integrated Support Center Chief of Staff.
- BHSO: An FR participated in the investigation of a leaking 265 microcurie Cs-137 sealed source. The leakage resulted in contamination of several Brookhaven National Laboratory personnel, vehicles, and equipment before it was discovered.
- BHSO: An FR participated in the review and approval of the National Synchrotron Light Source-II (NSLS-II) Booster Commissioning Safety Assessment Document and Accelerator Safety Envelope.
- BHSO: An FR participated in the investigation of an electric shock received by a BNL employee while turning off lights using an enclosed 120 volt wall snap switch.
- OR (SC): FRs conducted a coordinated assessment of Oak Ridge National Laboratory implementation of the Unreviewed Safety Question process for nuclear facilities and the Spallation Neutron Source.
- OR (SC): FRs conducted 65 walkthrough inspections, including 10 conducted jointly with Environment, Safety and Health Subject Matter Experts.
- PNSO: An FR identified inadequate posting for an asbestos work area in the Hanford 325 Building. The issue was quickly resolved by Contractor management.

SC Facility Representative (FR) Highlights:

- PNSO: FRs followed response and recovery efforts in a leased laboratory at the Washington State University (WSU) Tri-Cities campus following the spill of a waste container. Persistent vapors from phenol in the spill mixture kept lab closed for several days. Spill cleanup was accomplished by a subcontractor to WSU.

- PNSO: An FR followed-up on the discovery of an unsafe uninterruptible power supply (UPS) unit that an instrument vendor planned to install in the Environmental Molecular Sciences Laboratory (EMSL) Quiet Wing. The instrument acquisition had not specified the power supply method. After discovering the UPS issue, the contractor chose an alternate method.

- PNSO: An FR identified a vibration problem with a ventilation system damper at the Hanford 325 Building. The System Engineer initiated a work package to inspect the damper.

- PNSO: An FR identified a concern regarding the relocation of a sanitary water system isolation valve for the Hanford 325 Building. Vehicles could preclude access to the valve.

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